

Application No.: 09/981840

Docket No.: 10003813-1
AGIL-27,343**BEST AVAILABLE COPY****AMENDMENTS TO THE CLAIMS**

1 1. (currently amended) A flexible circuit comprising:
2 a substrate having a topside, and a plane;
3 a flexible and extensible structure formed within said substrate and co-planar
4 with said substrate, said structure having a structure topside;
5 an insulated capillary formed on said structure for transferring a fluid; and
6 wherein said structure is extendable out of said plane by a distance greater
7 than a maximum lateral dimension of said structure, such that said structure topside continues
8 to face in a general topside direction.

1 2-3. (cancelled)

1 4. (withdrawn) The flexible circuit according to Claim 2, wherein said pathway
2 is an electrical lead for transferring an electronic signal.

1 5. (withdrawn) The flexible circuit according to Claim 2, wherein said pathway
2 is an electrical lead for transferring an electrical signal.

1 6. (withdrawn) The flexible circuit according to Claim 2, wherein said pathway
2 is an optical fiber for transferring an optical signal.

1 7. (withdrawn) The flexible circuit according to Claim 6, wherein bending radii
2 of said optical fiber are large enough to prevent substantial optical loss from said optical
3 fiber.

1 8. (original) The flexible circuit according to Claim 1, wherein said structure is a
2 spiral.

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1 9. (original) The flexible circuit according to Claim 8, wherein said spiral is an
2 Archimedes spiral.

1 10. (original) The flexible circuit according to Claim 8, wherein said spiral is a
2 parabolic spiral.

1 11. (original) The flexible circuit according to Claim 8, wherein said spiral is a
2 polygonal spiral.

1 12. (original) The flexible circuit according to Claim 11, wherein said spiral is one
2 of a square spiral, a triangular spiral, a pentagonal spiral and a hexagonal spiral.

1 13. (original) The flexible circuit according to Claim 1, wherein said structure has
2 geometric features selected from a group comprising spiral, bend, curve, twist, turn, curl,
3 loop, u-turn and zig-zag.

1 14. (previously presented) The flexible circuit according to Claim 1, wherein said
2 structure is defined by dashed perforations.

1 15. (original) The flexible circuit according to Claim 1, wherein said structure
2 comprises a boss for receiving a force to extend said structure out of said plane.

1 16. (previously presented) The flexible circuit according to Claim 1 further
2 comprising at least a first insulated pathway and a second insulated pathway.

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- 1 17. (currently amended) A flexible circuit comprising: **BEST AVAILABLE COPY**
2 a substrate having a plane;
3 a flexible and extensible structure formed within said substrate and co-planar
4 with said substrate, said flexible and extensible structure includes a topside and is extendable
5 out of said plane by a distance greater than a maximum lateral dimension of said structure
6 such that said topside remains facing in a general topside direction; and
7 an insulated pathway capillary for transferring a fluid on said structure.
- 1 18. (cancelled)
- 1 19. (withdrawn) The flexible circuit according to Claim 17, wherein said pathway
2 is an electrical lead for transferring an electronic signal.
- 1 20. (withdrawn) The flexible circuit according to Claim 17, wherein said insulated
2 pathway is an optical fiber for transferring an optical signal.
- 1 21. (withdrawn) The flexible circuit according to Claim 20, wherein bending radii
2 of said optical fiber are large enough to prevent substantial optical loss from said optical
3 fiber.
- 1 22. (original) The flexible circuit according to Claim 17, wherein said structure is
2 a spiral.
- 1 23. (previously presented) The flexible circuit according to Claim 22, wherein
2 said spiral is an Archimedes spiral.
- 1 24. (original) The flexible circuit according to Claim 22, wherein said spiral is a
2 parabolic spiral.

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1 25. (original) The flexible circuit according to Claim 22, wherein said spiral is a
2 polygonal spiral.

1 26. (original) The flexible circuit according to Claim 25, wherein said spiral is one
2 of a square spiral, a triangular spiral, a pentagonal spiral and a hexagonal spiral.

1 27. (original) The flexible circuit according to Claim 17, wherein said structure
2 has geometric features selected from a group comprising spiral, bend, curve, twist, turn, curl,
3 loop, u-turn and zig-zag.

1 28. (previously presented) The flexible circuit according to Claim 17, wherein
2 said structure is defined by dashed perforations.

1 29. (previously presented) The flexible circuit according to Claim 17, wherein
2 said structure comprises a boss for receiving a force to extend said structure out of said plane.

1 30. (previously presented) The flexible circuit according to Claim 17 further
2 comprising a second insulated pathway on said structure.

1 31-36. (cancelled)

1 37. (previously presented) A flexible circuit comprising:

2 a substrate having a plane;

3 a flexible and extensible structure formed within said substrate and co-planar

4 with said substrate, said structure having a top side;

5 a capillary for transferring fluid on said structure; and

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6 wherein said structure is extendable substantially perpendicular to said plane
7 within the region defined by said plane, such that said top side remains facing in a general
8 topside direction.

1 38. (previously presented) The flexible circuit according to Claim 37 further
2 comprising an insulated pathway formed on said structure.

1 39. (previously presented) The flexible circuit according to Claim 37, wherein
2 said structure is a spiral.

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